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**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
HARRISBURG
JANUARY 1947**

LIST OF PUBLICATIONS

The Topographic and Geologic Survey's job is to map Pennsylvania, to get and give information on its mineral resources, their occurrence, character, possible use and value, and on the surface features, geology, soils, and ground water of the State.

Inquiries on these subjects are answered promptly and as fully as the information at hand warrants, either by letter or by reference to its own published reports or to other sources of information. The Survey will gladly identify and appraise mineral or rock specimens, but does not make assays or analyses for the public. Rarely are these necessary.

Publications on the geology and mineral resources of Pennsylvania listed on the following pages may be consulted in many public libraries throughout the State and in libraries of larger cities in other States, or purchased from the sources indicated.

Unless otherwise stated the reports and maps of this Survey can be obtained *only* at the prices given from

Division of Documents
Department of Property & Supplies
10th and Market Streets
Harrisburg, Pa.

Remittance should be made in advance by cash, or by money order or check, payable to the Commonwealth of Pennsylvania. Stamps are not accepted.

Topographic maps are sold by The Director, U. S. Geological Survey, Washington 25, D. C., by the Commanding Officer, Army Map Service, 6101 MacArthur Boulevard, Washington, D. C., for 20 cents a sheet, and by local stores. The Pennsylvania Geological Survey does not sell topographic maps.

United States Geological Survey reports can be obtained in Washington, D. C., as explained on page 10.

DO NOT SEND MONEY TO THE SURVEY

Publications checked may be of interest to you. Those listed on the following pages with an asterisk (*) are out of print. Some can be purchased from dealers in second-hand books. Names of second-hand book dealers will be furnished on request.

Knowledge is power. It pays to know. Ask us.

S. H. CATHCART,
Director.

LIST OF PUBLICATIONS

The publications fall mostly into six series, designated by letters. A. Atlas, topographic, geologic, and mineral resource maps and description, by quadrangles. C. County Reports. G. General Geology. M. Mineral Resources. SB. Special Bulletins—maps 13" by 18". W. Ground Water Resources.

A SERIES—TOPOGRAPHIC AND GEOLOGIC ATLAS

(See map)

- A 5. New Castle Quadrangle by Frank W. DeWolf. 1929. 238 pp., 18 pls. including 1 topographic and 4 geologic maps, 17 figs. \$1.00.
- A 27. Pittsburgh Quadrangle, by Meredith E. Johnson. 1928. 236 pp., 33 pls. including 1 topographic and 3 geologic maps, 28 figs. \$1.00.
- A 36. Freeport Quadrangle, by H. H. Hughes. 1933. 272 pp., 10 pls., 72 figs. including 1 topographic and 2 geologic maps. \$1.75.
- *A 37. Greensburg Quadrangle, by Meredith E. Johnson. 1926. 162 pp., 13 pls., 25 figs. including 1 topographic and 3 geologic maps.
- A 54. Brookville Quadrangle, by C. K. Graeber, R. M. Foose, and M. N. Shaffner. 1942. 136 pp., 16 pls. including 1 topographic and 3 geologic maps, 14 figs. \$2.00.
- A 55. Smicksburg Quadrangle, by Marchant N. Shaffner. 1947. 300 pp., 11 pls. including 1 topographic, 1 geologic, and 1 mineral resources maps, 103 figs.
- *A 65. Punxsutawney Quadrangle, by George H. Ashley. 1926. 145 pp., 6 pls. including 1 topographic and 3 geologic maps, 26 figs.
- A 75. Curwensville Quadrangle, by George H. Ashley. 1940. 140 pp., 32 figs., 4 pls. including 1 topographic, 1 areal geology, 1 mineral resources map, and 1 stratigraphic chart. \$1.50.
- A 96. Tyrone Quadrangle, by Charles Butts, F. M. Swartz, and Bradford Willard. 1939. 116 pp., 14 pls. including 1 geologic map and cross sections, 4 figs. \$1.00.
- A 168. Lancaster Quadrangle, by Anna I. Jonas and George W. Stose. 1930. 103 pp., 23 pls. including 1 topographic and 1 geologic map, 10 figs. \$1.00.
- *A 178. New Holland Quadrangle, by Anna I. Jonas and George W. Stose. 1926. 40 pp., 7 pls. including 1 topographic and 1 geologic map.
- *A 206. Allentown Quadrangle, by B. L. Miller. 1926. 195 pp., 15 pls. including 1 topographic and 1 geologic map, 2 figs.

C SERIES—COUNTY REPORTS

- C 1. Adams County.
 - * Part II. Mineral Resources, by George W. Stose. 1925. 64 pp., 11 pls. including 1 colored map, 1 fig.
 - * Part III. Soil Survey, by A. L. Patrick and H. H. Bennett. 1924. 44 pp., 1 colored map.
- C 1. Geology and mineral resources of Adams County, by George W. Stose. 1932. 153 pp., 26 pls. including 1 topographic and 1 colored geologic map, 11 figs. \$1.00.
- C 26. Geology and mineral resources of Fayette County, by W. O. Hickok IV. and F. T. Moyer. 1940. 530 pp., 146 figs., 1 topographic, 1 coal and surface structure, 1 geologic map, 31 by 39 inches. \$3.25.
- C 30. Geology and mineral resources of Greene County, by Ralph W. Stone. 1932. 175 pp., 3 pls. including 1 topographic and 1 geologic map, 56 figs. \$1.00.
- C 39. Lehigh County, Geology and Geography, by B. L. Miller and others. 1942. 492 pp., 17 figs., 39 pls. including 1 topographic and mine map and 1 geologic map, 28 by 30 inches. \$3.30.

- C 48. Northampton County, Geology and Geography, by B. L. Miller with chapter on Pre-Cambrian geology, by D. M. Fraser and on the Jacksonburg formation, by R. L. Miller. 1939. 496 pp., 29 pls., 36 figs. including geologic map, 31 by 32 inches. \$2.25.
- C 67. Geology and mineral resources of York County, by George W. Stose and Anna I. Jonas. 1939. 195 pp., 38 pls., 14 figs. including geologic map 40 by 50 inches. \$2.25.

G SERIES—GENERAL GEOLOGY

- G 1. A syllabus of Pennsylvania geology and mineral resources, by George H. Ashley. 1931. 160 pp., 2 plates including a small colored geologic map, 118 figs. A story of Pennsylvania's rocks, minerals and mineral industry, and the development of the surface features, written expressly for people who have not studied the subject. 30 cents.
- G 2. Meteorites found in Pennsylvania, by Ralph W. Stone. 1932. 28 pp., 14 figs. A compilation of all publications on five meteorites. 10 cents.
- G 3. Pennsylvania Caves, by Ralph W. Stone. 1932. 143 pp., 68 figs. Describes 14 caves open to the public, and about 70 undeveloped caves. 25 cents.
- G 4. Devonian Faunas in Pennsylvania, by Bradford Willard. 1932. 43 pp. Lists of certain Middle and Upper Devonian faunas, citing localities where collected. Of interest only to students of fossils. 15 cents.
- G 5. Correlation of the Ordovician limestone at Salona, Clinton County, by Lawrence Whitcomb. 1932. 16 pp., 1 pl. A discussion of the lithology and correlation of Trenton limestone exposed at Salona. 15 cents.
- G 6. Scenery of Pennsylvania, by George H. Ashley. 1933. Its origin and development, based on recent studies of physiographic and glacial history, as interpreted by Geo. H. Ashley, 91 pp., 1 pl., 90 figs. 35 cents.
- *G 7. Glacial deposits outside the Wisconsin terminal moraine in Pennsylvania, by Frank Leverett. 1934. 140 pp., 1 pl., 38 figs.
- G 8. A Paleozoic section in south-central Pennsylvania, by Bradford Willard and Arthur B. Cleaves. 1938. 38 pp., 10 pls. Describes the geology from Highspire through Harrisburg to Newport, a stratigraphic succession from Lower Ordovician to Triassic. 25 cents.
- G 9. The Geomorphology of the Wyoming-Lackawanna Region, by Harry Augustus Itter. 1938. 82 pp., 9 pls., 46 figs. Describes the evolution of the landscape. 25 cents.
- G 10. Recent geological history of the Delaware Valley below the Water Gap, by Freeman Ward. 1938. 76 pp., 10 pls., 13 figs. 25 cents.
- G 11. A Paleozoic section at Delaware Water Gap, by Bradford Willard. 1938. 35 pp., 9 figs. 25 cents.
- G 12. Highway geology from Philadelphia to Pittsburgh, by Bradford Willard. 1939. 42 pp., 17 pls. 25 cents.
- G 13. Guide to the geology from Dauphin to Sunbury, by Bradford Willard. 1939. 24 pp., 7 pls. 25 cents.
- G 14. Guide to the geology of the Upper Schuylkill Valley, by Bradford Willard. 1939. 23 pp., 1 pl., 8 figs. Description from Pottsville to Leesport. 25 cents.
- G 15. Guidebook to the geology near Reading, by Bradford Willard and Donald M. Fraser. 1939. 27 pp., 11 figs. 25 cents.
- G 16. Guidebook to places of geologic interest in the Lehigh Valley, by B. L. Miller. 1939. 47 pp., 24 figs. 25 cents.
- G 17. Guidebook to the geology about Pittsburgh, by Henry Leighton. 1939. 35 pp., 13 figs. 25 cents.
- G 18. Guidebook to the geology in the vicinity of Philadelphia, by E. H. Watson. Being written.

- G 19. The Devonian of Pennsylvania, by Bradford Willard, Frank M. Swartz and Arthur B. Cleaves. 1939. 450 pp., 32 pls., 95 figs., \$3.00.
- G 20. Guidebook to the geology of the Pennsylvania Turnpike, by A. B. Cleaves and George H. Ashley. 1942. 41 pp., 14 pls., 23 figs. Obtained from Topographic and Geologic Survey.

M SERIES—MINERAL RESOURCES

- *M 1. Oil and Gas Fields of Pennsylvania, Vol. 1, Introduction, by George H. Ashley and J. French Robinson, 1922, 79 pp., 4 pls., 9 figs., 1 color map. A condensed, introductory description of the origin, mode of occurrence, and conditions of development of oil and gas, with a brief description of each of the oil and gas fields of the State; also a small scale reconnaissance map of the oil and gas fields.
- *M 2. Oil Resources in Coals and Carbonaceous Shales of Pennsylvania, by Chas. R. Fettke. 1923. 119 pp., 6 pls., 16 figs. Describes the petroleum situation, explaining methods of distilling coal and shale, and gives results of tests on 122 samples of coal and shale.
- *M 3. Silica Refractories of Pennsylvania, by E. S. Moore and T. G. Taylor, 1924. 100 pp., 16 pls., 10 figs. Describes the character, distribution and quarrying of ganister and mica schist, and the properties, manufacture, and uses of silica brick.
- *M 4. Bituminous Coal Losses and Mining Methods in Pennsylvania, by James D. Sisler. 1924. 216 pp., 1 pl., 29 figs. Describes the distribution, thickness, character, and reserves of bituminous coal by districts, and indicates the source of loss and waste at the mines.
- *M 5. Lead and Zinc Ores of Pennsylvania, by B. L. Miller. 1924. 91 pp., 5 pls., 7 figs. A description of the distribution, geologic occurrence, and origin of the ores, and a history of mining operations.
- M 6. Bituminous Coal Fields of Pennsylvania.
 - Part I. General Information on Coal, by George H. Ashley. 1928. 241 pp., 17 pls., 32 figs. 50 cents.
 - II. Detailed Description of Coal Fields, by J. D. Sisler. 1932. 511 pp., 14 pls., including 5 color maps, 152 figs. A report giving details of the bituminous coal beds. The description is by counties. 50 cents.
 - III. Bituminous Coal Resources, by John F. Reese and James D. Sisler. 1928. 153 pp., 4 pls., 25 cents. Reserves in tons.
 - IV. Analyses of Bituminous Coal. 1925. 268 pp., 1 pl. This report by the U. S. Bureau of Mines gives several hundred measurements and analyses of bituminous coal mined in Pennsylvania. 50 cents.
- *M 7. Limestones of Pennsylvania, by B. L. Miller. 1925. 368 pp., 15 pls., includes 1 color map, 7 figs. Describes the character, origin, and uses of limestone and the geographic and geologic distribution of the principal deposits. The description of the limestone of each geologic age is arranged by counties. (See M 20.)
- *M 8. Anthracite Losses and Reserves in Pennsylvania, by Dever C. Ashmead. 1926. 71 pp., 1 pl., 13 figs. This report gives the thickness and acreage of each bed in the anthracite fields, the percent of coal recovered in mining, explains how and why some anthracite is lost, and gives an estimate of the quantity of anthracite remaining in each bed, and in each of the four fields.
- *M 9. Slate in Northampton County, by C. H. Behre, Jr. 1927. 312 pp., 36 plates, 49 figs., 2 color maps. Describes the slate quarries in the Bangor, Wind Gap, Portland, Belfast, Chapman, Seemsville, Point Philip, and Slatefield districts, with special reference to the geologic structure. (See M 16.)

- M 10. Fire Clays of Pennsylvania, by J. B. Shaw. 1928. 69 pp., 6 figs. 25 cents.
- M 11. Molding Sands of Pennsylvania, by R. W. Stone and American Foundrymen's Association. 1928. 94 pp., 21 pls., 10 figs. 25 cents.
- M 12. Anthracite Culm and Silt, by James D. Sisler, Thomas Frazer and Dever C. Ashmead. 1928. 259 pp., 34 pls., 21 figs. 50 cents.
- *M 13. Feldspar in Pennsylvania, by R. W. Stone and H. Herbert Hughes. 1931. 60 pp., 20 pls., 6 figs.
- *M 14. Magnetite Deposits of French Creek, Pennsylvania, by Laurence L. Smith. 1931. 52 pp., 5 pls., 5 figs. Describes the French Creek magnetite mine at Saint Peters, Chester County.
- M 15. Building Stones of Pennsylvania, by Ralph W. Stone. 1932. 316 pp., 4 pls., 164 figs. This report calls attention to the different kinds of building stone available and illustrates their uses. \$1.25.
- M 16. Slate in Pennsylvania, by Charles H. Behre, Jr. 1933. 400 pp., 5 colored geologic maps, 65 other pls., 89 figs. The fullest description and discussion of the subject ever published. \$2.75.
- M 17. Clay and Shale Resources of southwestern Pennsylvania, by Henry Leighton. 1933. 190 pp., 1 colored geologic map, 16 figs. 75 cents.
- M 18. The Minerals of Pennsylvania.
- *A. Introduction by George H. Ashley. 1933. 15 pp.
 - B. Iron Ores of Pennsylvania, by W. O. Hickok, IV. 1939. 21 pp.
 - C. Non-metallic Minerals, by R. W. Stone. 1939. 50 pp., 1 fig.
(18 B. and C. obtained free from the State Geologic Survey.)
- *M 19. Contributions to Oil and Gas Geology of western Pennsylvania, by J. D. Sisler, G. H. Ashley, F. T. Moyer and W. O. Hickok, IV. 1933. 94 pp., 22 pls., 1 fig.
- M 20. Limestones of Pennsylvania, by B. L. Miller. 1934. 729 pp., 41 pls., 34 figs. The primary purpose of this report is to furnish information concerning the limestones of the State to those persons or firms that are interested in their utilization. \$2.00.
- M 21. Bradford Oil Field, Pennsylvania and New York, by Chas. R. Fettke. 1938. 454 pp., 21 pls., 113 figs., including 1 geologic map. Describes water-flooding operations. \$3.00.
- M 22. Oil Geology of the Titusville Quadrangle, Pennsylvania, by Parke A. Dickey. 1941. 87 pp., 6 pls., 13 figs., 1 columnar, 5 cross sections. 50 cents.
- M 23. Clay and Shale Resources in Pennsylvania, by Henry Leighton. 1941. 245 pp., 1 colored geologic map and 4 figs. \$1.00.
- M 24. Oil and Gas Geology of the Franklin Quadrangle, Pennsylvania, by R. E. Sherrill and L. S. Matteson. 1941. 71 pp., 5 figs., 6 pls. of maps and sections. 55 cents.
- M 25. Oil and Gas Geology of the Oil City Quadrangle, Pennsylvania, by Parke A. Dickey, R. E. Sherrill, and L. S. Matteson. 1943. 201 pp., 8 pls., 17 figs., 6 sections. \$1.00. Cloth cover, \$1.50.
- M 26. Iron-manganese ore deposit at White Rocks, Cumberland County, Pennsylvania, by Richard M. Foose. 1946. 35 pp., 14 pls., 3 figs. 75 cents.
- M 27. Manganese minerals of Pennsylvania, by Richard M. Foose. 1946. vi, 126 pp., 27 pls., 25 figs. \$1.35.
- M 28. Oil and gas developments in the North Strabane area, Washington County, Pennsylvania, by Chas. R. Fettke and Robert C. Stephenson. (In press.)

W SERIES—GROUND WATER RESOURCES

- W 1. Ground Water in southwestern Pennsylvania, by Arthur M. Piper. 1933. 410 pp., 1 colored geologic map, 40 figs. A detailed description of the occurrence and character of ground water in Allegheny, Butler, Fayette, Greene, Washington, and Westmoreland counties. \$1.50.
- W 2. Ground Water in southeastern Pennsylvania, by George M. Hall. 1934. 255 pp., 1 colored geologic map, 7 pls., 7 figs. A detailed description of the occurrence and character of ground water in Adams, Berks, Bucks, Chester, Cumberland, Dauphin, Delaware, Franklin, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, and York counties. \$1.25.
- W 3. Ground Water in northwestern Pennsylvania, by R. M. Leggette. 1936. 215 pp., 1 colored geologic map, 8 other pls., 15 figs. A detailed description of the occurrence and character of ground water in Armstrong, Beaver, Clarion, Crawford, Erie, Forest, Indiana, Jefferson, Lawrence, Mercer, Venango, and Warren counties. \$1.50.
- W 4. Ground Water in northeastern Pennsylvania, by Stanley W. Lohman. 1937. 300 pp., 1 colored geologic map, 6 other pls., 18 figs. A detailed description of the occurrence and character of ground water in Carbon, Columbia, northern Dauphin, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Schuylkill, Susquehanna, Wayne, and Wyoming counties. \$1.50.
- W 5. Ground Water in south-central Pennsylvania, by Stanley W. Lohman. 1938. 315 pp., 17 pls., 11 figs., including colored geologic map and well location map. A detailed description of the occurrence and character of ground water in Bedford, Blair, Cambria, Centre, Clearfield, Clinton, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder, Somerset, and Union counties. \$1.50.
- W 6. Ground Water in north-central Pennsylvania, by Stanley W. Lohman. 1939. 220 pp., 11 pls., 13 figs., including colored geologic map and well location map. A detailed description of the occurrence and character of ground water in Bradford, Cameron, Elk, Lycoming, McKean, Potter, Sullivan, and Tioga counties. \$1.25.
- W 7. Ground Water Resources of Pennsylvania, by Stanley W. Lohman. 1941. 32 pp., 11 figs., 1 pl. A summary of Bulletins W 1-6. 25 cents.

PROGRESS REPORTS

Obtained free from the Topographic and Geologic Survey, Harrisburg

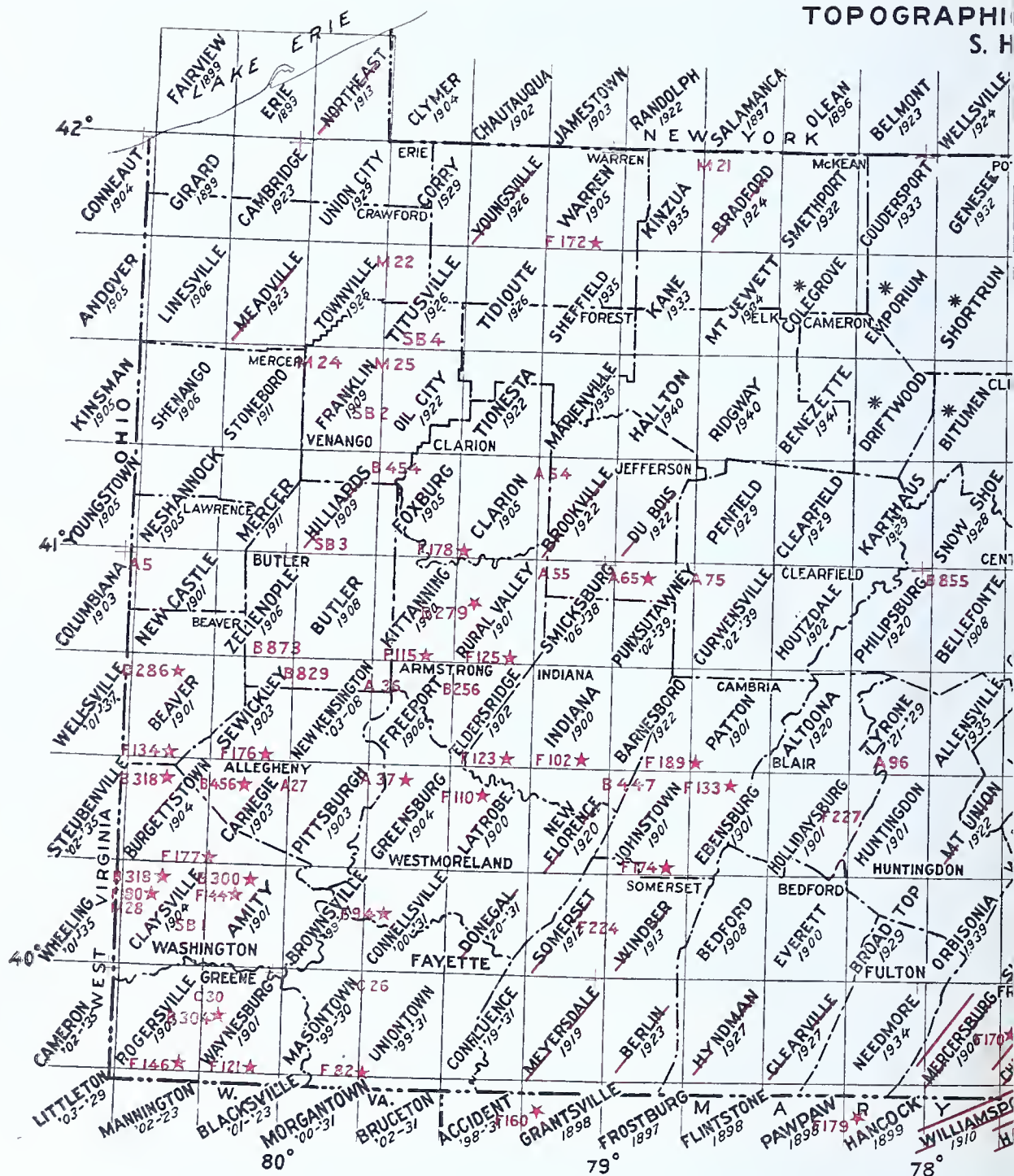
- 102B. Physical characteristics of the Oriskany sandstone and subsurface studies in the Tioga gas field, Pennsylvania, by Charles R. Fettke. Stratigraphy of the Tioga Region, by Bradford Willard. 14 pp. Dec. 1931.
- *106. Gas and oil in Potter County, Pa., by S. H. Cathcart. 31 pp., 3 figs. 1934.
107. Gas in Tioga County, Pennsylvania, by S. H. Cathcart and T. H. Myers. 42 pp., 5 figs. 1934.
108. Geologic structure in the plateaus region of northern Pennsylvania and its relation to the occurrence of gas in the Oriskany sand, by S. H. Cathcart. 24 pp., 2 figs. 1934.
- *109. Possibility of finding gas in Cameron County, Pennsylvania, by S. H. Cathcart. 16 pp., 3 figs. 1934.
110. Possible occurrence of gas in the Oriskany sand of Elk County, Pennsylvania, by S. H. Cathcart. 21 pp., 3 figs. 1934.
111. Possibility of finding gas in the Oriskany sand of McKean County, Pennsylvania, by S. H. Cathcart. 13 pp., 3 figs. 1934.
- *112. White Clays of Pennsylvania, by Henry Leighton. 19 pp., 12 figs. 1934.

113. Pennsylvania Geology Summarized, by Bradford Willard. 13 pp., 6 figs. 1935. Third edition, revised, 1940.
- *114. Subsurface stratigraphy of northwestern Pennsylvania and a resume of gas and oil possibilities of deeper sands, by Charles R. Fettke. 23 pp., 4 figs. 1935.
115. Structure and stratigraphy of Fayette County (preliminary report), by Forrest T. Moyer. 20 pp., 1 map. 1937.
- *116. Bradford oil field (prelim. rpt.), by Chas. R. Fettke. 17 pp., 5 figs. 1937.
117. Supplementary record of "deep sand" wells in Pennsylvania, by S. H. Cathcart. 27 pp., 5 figs. 1937.
118. Geology of the oil and gas fields of the Tidioute Quadrangle (advance report), by S. H. Cathcart, R. E. Sherrill, and L. S. Matteson. 15 pp., 7 maps, 1 fig., 181 well records. 1938
119. The Canadian System (technical bulletin), by Geo. H. Ashley. 7 pp. 1938.
120. Structure and stratigraphy of the Brookville Quadrangle (prelim. rpt.), by Chas. K. Graeber. 9 pp., figs., including geologic structure map. 1939.
121. Structure and stratigraphy of the Smicksburg Quadrangle (preliminary report), by M. N. Shaffner. 12 pp., geologic structure map, columnar section, and 25 plotted well records. 1939.
122. Geology of the oil and gas fields of the Hilliards Quadrangle (preliminary report), by R. E. Sherrill and L. S. Matteson. 25 pp., 4 correlation sections, 4 maps, and 238 well records. 1939. (Sold by Division of Documents. 15 cents.)
123. Oil Mining Possibilities in Pennsylvania, by Parke A. Dickey. 31 pp., 10 figs. 1939.
- *124. Summit Gas Pool, Fayette County, Pennsylvania, by Charles R. Fettke. 21 pp., 1 fig. 1940.
- *125. Music Mountain Oil Pool and other oil pools in Lafayette Township, McKean County, Pennsylvania, by Charles R. Fettke. 34 pp., 9 figs. 1941.
126. The Upper Devonian and Lower Mississippian of Southwestern Pennsylvania, by Wilson M. Laird. 23 pp. 1941.
127. Subsurface Sections across Western Pennsylvania, by Charles R. Fettke. 57 pp., 1 map, 2 subsurface sections. 1941. (Sold by Division of Documents. 50 cents.)
128. Manganese minerals in Pennsylvania, by Richard M. Foose. 22 pp., 3 figs. 1942.
129. Electrical well logging in the Eastern States, by Parke A. Dickey. 30 pp., 20 figs. 1942.
130. Anthracite reserves, by Geo. H. Ashley. 13 pp. 1945.
131. Haskell Sand core from the Coryville Pool, McKean County, Pennsylvania (prelim. rpt.), by Chas. R. Fettke and W. H. Seifert. 9 pp., 1 fig. 1946. (A limited mimeographed edition for the oil industry.)

SPECIAL BULLETINS

- No. 1. Oil-bearing sands in southwestern Pennsylvania, by L. S. Matteson and D. A. Busch. 11 pp. text, 208 well records, 55 pls. correlation sections and maps. 12½ by 15". 1944. \$1.50.
2. Oil and gas field farm line maps of the Franklin and Oil City Quadrangles, Pennsylvania, by Parke A. Dickey and L. S. Matteson. 18 maps, scale 1 inch = 2,000 feet. 13½ by 18". 1945. \$1.25.
3. Oil and gas field property line maps of the Hilliards Quadrangle, Pennsylvania, by R. E. Sherrill. 9 maps, scale 1 inch = 2,000 feet. 13½ by 18". 1946. \$1.00.
4. Oil and gas field property line maps of the Titusville Quadrangle, Pennsylvania, by Parke A. Dickey and Lillian Heeren. 9 maps, scale 1 inch = 2,000 feet. 1946. \$1.00

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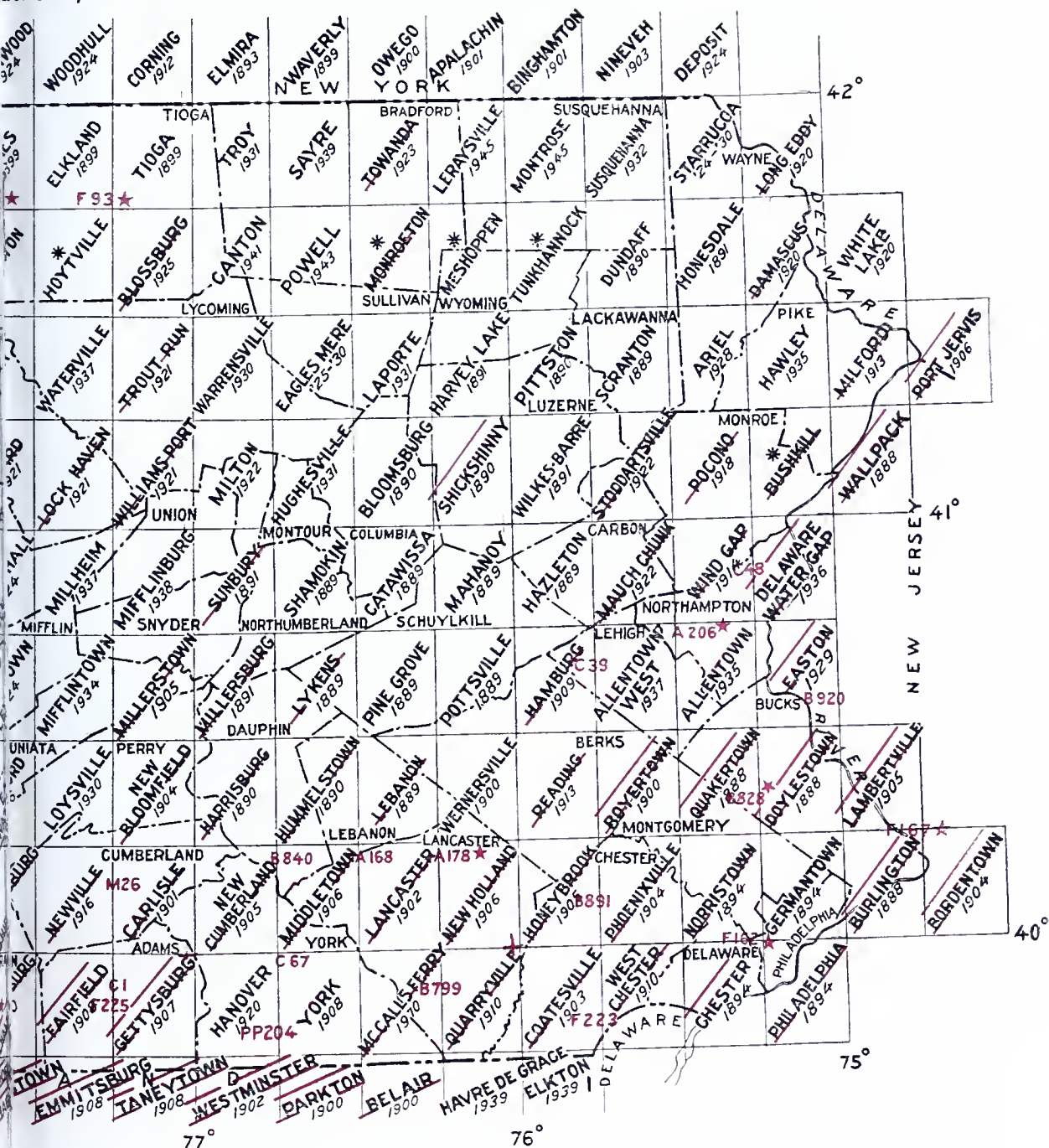
Topography of all 15' quadrangles was mapped by the U. S. Geological Survey in the year shown under the name. Scale 1:62,500. Many quadrangles were mapped after 1940 by the Corps of Engineers.

Red Line under name—Mapped by Corps of Engineers, U. S. Army.

Red Line over name—Remapped as 7 1/2' quadrangles, scale 1:31,680 or 1:25,000

Black Star—Map not published. Red Star—Report out of print.

DEPARTMENT OF PENNSYLVANIA
 DEPARTMENT OF INTERNAL AFFAIRS
 S. Livengood, Jr., Secretary
 AND GEOLOGIC SURVEY
 H. H. Hartsart, Director



- A. Atlas by Pennsylvania Geological Survey.
B. Bulletin by U. S. Geological Survey.
C. County report by Pennsylvania Geological Survey.
F. Folio of Geologic Atlas by U. S. Geological Survey.
M. Mineral Resources bulletin by Pennsylvania Geological Survey.
PP. Professional Paper by U. S. Geological Survey.
SB. Special Bulletin by Pennsylvania Geological Survey.

MISCELLANEOUS PAPERS

- *1. The Story of the Survey, by Geo. H. Ashley. 1920. 20 pp.
- *2. The Work of the Survey, by Geo. H. Ashley. 1923. 18 pp.
- *3. The Pennsylvania Geological Survey. Administrative report, by Geo. H. Ashley. 1931. 38 pp., 1 index map.

MAPS

Geologic map of Pennsylvania. 1932. 40 by 62 inches (scale 1 inch equals 6 miles). In 17 colors and 70 patterns. \$1.50

Map of Bituminous Coal Fields of Pennsylvania. 1929. 35 by 57 inches (scale 1 inch equals 6 miles). 50 cents.

Oil and Gas map of Western Pennsylvania. 1932. 24 by 30 inches (scale 1 inch equals 6 miles), with pipe line maps on back. 25 cents.

*Plain base map of Pennsylvania. 1927. 40 by 62 inches (scale 1 inch equals 6 miles). This map shows county and township lines, and principal towns in black and streams in blue. Contains no topographic or geologic data.

Undrilled areas of Sheffield Quadrangle, by L. S. Matteson. 1946. Free

Undrilled areas of southern Kinzua and northern Kane quadrangles, by Chas. R. Fettke. 1946. Free.

Farm line map of Warren Quadrangle, showing undrilled areas, by S H. Cathcart and W. H. Seifert. (In press.)

PUBLICATIONS OF PREVIOUS GEOLOGIC SURVEYS

The present Survey has been preceded by the First Geological Survey of Pennsylvania, Second Geological Survey of Pennsylvania, and Topographic and Geologic Survey Commission of Pennsylvania whose publications are all out of print. They can be consulted in the libraries of the larger cities or purchased through dealers in second-hand books.

PUBLICATIONS OF THE UNITED STATES GEOLOGICAL SURVEY

The United States Geological Survey has published many reports on Pennsylvania. Many are out of print. The few folios of the Geologic Atlas of the United States still available can be obtained only from The Director, U. S. Geological Survey, Washington, D. C., at the prices given (stamps not accepted). Several of the economic bulletins can be obtained from the Superintendent of Documents, Washington, D. C., at the prices quoted.

FOLIOS

- * 82. Masontown-Uniontown, by M. R. Campbell. 1902.
- * 92. Gaines, by M. L. Fuller. 1903.
- * 93. Elkland-Tioga, by M. L. Fuller and W. C. Alden. 1903.
- * 94. Brownsville-Connellsville, by M. R. Campbell. 1903.
- *102. Indiana, by G. B. Richardson. 1904.
- *110. Latrobe, by M. R. Campbell. 1904.
- *115. Kittanning, by Charles Butts. 1904.

- *121. Waynesburg, by R. W. Stone. 1905.
- *123. Elders Ridge, by R. W. Stone. 1905.
- *125. Rural Valley, by Charles Butts. 1905.
- *133. Ebensburg, by Charles Butts. 1905.
- *134. Beaver, by L. H. Woolsey. 1905.
- *144. Amity, by F. G. Clapp. 1907.
- *146. Rogersville, by F. G. Clapp. 1907.
- *160. Accident-Grantville, by G. C. Martin. 1909.
- *162. Philadelphia, by F. Bascom, Clark, Darton, Kümmel et al. 1909.
- *167. Trenton, N. J.-Pa., by F. Bascom, Darton, Kümmel et al. 1909.
- *170. Mercersburg-Chambersburg, by George W. Stose. 1909.
- *172. Warren, by Charles Butts. 1910.
- *174. Johnstown, by W. C. Phalen. 1910.
- *176. Sewickley, by M. J. Munn. 1911.
- *177. Buggettstown-Carnegie, by E. W. Shaw and M. J. Munn. 1911.
- *178. Foxburg-Clarion, by E. W. Shaw, E. F. Lines and M. J. Munn. 1911.
- *179. Pawpaw-Hancock, by G. W. Stose and C. K. Swartz. 1911.
- *180. Claysville, by M. J. Munn. 1911.
- *189. Barnesboro-Patton, by M. R. Campbell, F. G. Clapp and Charles Butts. 1913.
- 223. Coatesville-West Chester, by F. Bascom and G. W. Stose. 1932. 50 cents.
- 224. Somerset-Windber, by G. B. Richardson. 1934. 50 cents.
- 225. Fairfield-Gettysburg, by G. W. Stose and F. Bascom. 1929. 50 cents.
- 227. Hollidaysburg-Huntingdon, by Charles Butts. 1946. \$2.00.

BULLETINS

- * 3. On the fossil faunas of the Upper Devonian, by H. S. Williams. 1884. 36 pp.
- * 58. The Glacial boundary in western Pennsylvania, Ohio, Kentucky, Indiana and Illinois, by G. F. Wright. 1890. 112 pp., 8 pls.
- * 65. Stratigraphy of the bituminous coal field of Pennsylvania, Ohio, and West Virginia, by I. C. White. 1891. 22 pp., 11 pls.
- *120. The Devonian system of eastern Pennsylvania and New York, by C. S. Prosser. 1894. 81 pp., 2 pls.
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- *136. The ancient volcanic rocks of South Mountain, Pennsylvania, by F. Bascom. 1896. 124 pp., 28 pls.
- *249. Limestones of southwestern Pennsylvania, by F. G. Clapp. 1905. 52 pp.
- *256. Mineral resources of the Elders Ridge quadrangle, Pennsylvania, by R. W. Stone. 1905. 86 pp.
- *279. Economic geology of the Kittanning and Rural Valley quadrangles, Pennsylvania, by Charles Butts. 1906. 198 pp.
- *286. Economic geology of the Beaver quadrangle, Pennsylvania, by L. H. Woolsey. 1906. 132 pp.
- *288. Results of spirit leveling in Pennsylvania for the years 1899 to 1905, inclusive, by S. S. Gannett and D. H. Baldwin. 1906. 62 pp.
- *300. Economic geology of the Amity quadrangle, Pennsylvania, by F. G. Clapp. 1907. 145 pp.

- *304. Oil and gas fields of Greene County, Pennsylvania, by R. W. Stone and F. G. Clapp. 1907. 110 pp.
- *318. Geology of the oil and gas fields in Steubenville, Burgettstown and Claysville quadrangles, Ohio, West Virginia and Pennsylvania, by W. T. Griswold and M. J. Munn. 1907. 196 pp.
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- *447. Mineral resources of Johnstown, Pennsylvania and vicinity, by W. C. Phalen and Lawrence Martin. 1911. 142 pp., 7 pls.
- *454. Coal, oil and gas of the Foxburg quadrangle, Pennsylvania, by E. W. Shaw and M. J. Munn. 1911. 85 pp., 10 pls.
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- 465. The State Geological Surveys of the United States, compiled under the direction of C. W. Hayes. 1911. 177 pp. 15 cents.
- *508. The Onondaga fauna of the Allegheny region, by E. M. Kindle. 1912. 144 pp., 13 pls.
- *515. Results of spirit leveling in Pennsylvania, 1899 to 1911, inclusive, by R. B. Marshall, chief geographer. 1912. 164 pp., 1 pl.
- *624. Useful minerals of the United States, by F. C. Schrader, R. W. Stone, and Samuel Sanford. 1917. 412 pp. Pennsylvania minerals, pp. 259-268.
- *659. Cannel Coal in the United States, by G. H. Ashley. 1918. 127 pp.
- *725. Chrome ores of southeastern Pennsylvania and Maryland, by E. B. Knopf. 1922. pp. 361-382.
- 799. Geology of the McCalls Ferry-Quarryville district, Pennsylvania, by E. B. Knopf and A. I. Jonas. 1929. 156 pp., 8 pls. 35 cents.
- *828. Geology and mineral resources of the Quakertown-Doylestown district, Pennsylvania and New Jersey, by Bascom, Wherry, Stose, and Jonas. 1931. 62 pp., 4 pls., 3 figs.
- 829. Geology and coal, oil, and gas resources of the New Kensington quadrangle, Pennsylvania, by G. B. Richardson. 1932. 102 pp., 9 pls., 6 figs. 40 cents.
- 840. Geology and mineral resources of the Middletown quadrangle, Pennsylvania, by George W. Stose and Anna I. Jonas. 1933. 86 pp., 15 pls., 16 figs. 40 cents.
- *855. Geology and mineral resources of the Bellefonte quadrangle, Pennsylvania, by Charles Butts and Ellwood S. Moore. 1936. 111 pp., 12 pls., 2 figs.
- 873. Geology and mineral resources of the Butler and Zelienople quadrangles, Pennsylvania, by G. B. Richardson. 1936. 93 pp., 8 pls., 10 figs. 45 cents.
- 891. Geology and mineral resources of the Honeybrook and Phoenixville quadrangles, Pennsylvania, by F. Bascom and G. W. Stose. 1938. 145 pp., 11 pls., 20 figs. 65 cents.
- 920. Pre-Cambrian geology and mineral resources of the Delaware Water Gap and Easton quadrangles, N. J.-Pa., by W. S. Bayley. 1941. 98 pp., 5 pls., 4 figs. 40 cents.

For other publications on Pennsylvania Geology, see G-1, Syllabus.

WATER-SUPPLY PAPERS

- *108. Quality of water in the Susquehanna River Drainage Basin, by M. O. Leighton with an introductory chapter on Physiographic features, by G. B. Hollister. 1904. 76 pp.
- 109. Hydrography of the Susquehanna River Drainage Basin, by J. C. Hoyt and R. H. Anderson. 1905. 215 pp. 25 cents.
- 777. Water levels and artesian pressure in observation wells in the United States in 1935. Pennsylvania, pp. 161-169. 30 cents.
- 817. Water levels and artesian pressure in observation wells in the United States in 1936. Pennsylvania, pp. 260-301. 75 cents.
- 840. Water levels and artesian pressure in observation wells in the United States in 1937. Pennsylvania, pp. 347-364. \$1.00.
- 845. Water levels and artesian pressure in observation wells in the United States in 1938. Pennsylvania, pp. 413-432. 75 cents.
- 886. Water levels and artesian pressure in observation wells in the United States in 1939. Pennsylvania, pp. 624-637. \$1.00.
- 906. Water levels—in 1940. Pennsylvania, pp. 212-226. 30 cents.
- 936. Water levels—in 1941. Pennsylvania, pp. 238-251. 55 cents.
- 944. Water levels—in 1942. Pennsylvania, pp. 229-242. 35 cents.
- 986. Water levels—in 1943. Pennsylvania, pp. 276-290. 50 cents.

MONOGRAPHS

- * 41. Glacial formations and drainage features of the Erie and Ohio Basins, by Frank Leverett. 1902. 802 pp., 26 pls.

PROFESSIONAL PAPER

- 204. Geology of the Hanover-York district, Pennsylvania, by Anna Jonas Stose and George W. Stose. 1944. 84 pp., 18 pls., 29 figs. \$1.75.

PUBLICATIONS OF THE UNITED STATES BUREAU OF MINES

Technical Paper 590. Analyses of Pennsylvania bituminous coals. 1939. 509 pp., 5 figs. 50 cents.

Technical Paper 659. Analyses of Pennsylvania anthracite coals. 1944. 271 pp., 10 figs. 40 cents.

*Bulletin 195. Pennsylvania Mining Statutes, Annotated, by J. W. Thompson. 1920. 1221 pp.

Minerals Yearbook, 1100 to 1500 pages annually. Presents an economic and statistical summary of the mineral industry of the United States. \$2.00.

TOPOGRAPHIC MAPS
UNITED STATES GEOLOGICAL SURVEY

Sold by The Director, Geological Survey, Interior Department, Washington 25, D. C., for 20 cents a sheet (stamps not accepted), and by local stores.

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Berlin	Hilliards	Milford	Quarryville
Blossburg	Honeybrook	Millersburg	Reading
Bradford	Howard	Millerstown	Shippensburg
Brookville	Hummelstown	Monroeton	Somerset
Burlington	Hyndman	Mt. Union	Stoddartsville
Carlisle	Lancaster	New Bloomfield	Sunbury
Clearville	Lebanon	New Cumberland	Towanda
Coatesville	Lock Haven	New Florence	Trout Run
Damascus	Long Eddy	New Holland	West Chester
Donegal	Lykens	Newville	Williamsport
DuBois	Mauch Chunk	North East	Windber
Emmitsburg	McCalls Ferry	Norristown	Wind Gap
Hamburg	Meadville	Philadelphia	Youngsville
	Meyersdale	Phoenixville	

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7½' quadrangles: scale 1:31,680 (1 inch = ½ mile). Made since 1941.

<i>15' Quadrangles:</i>	<i>NW quarter</i>	<i>NE quarter</i>	<i>SW quarter</i>	<i>SE quarter</i>
BORDENTOWN	Trenton East			
BOYERTOWN	Manatawny	East Greenville	Boyertown	Sassamansville
BURLINGTON	Langhorne	Trenton West	Beverly	Bristol
CHAMBERSBURG	Chambersburg	Scotland	Greencastle	Waynesboro
DELAWARE WATER GAP	Stroudsburg	Portland	Bangor	Belvidere
DOYLESTOWN	Bedminster	Point Pleasant	Doylestown	Buckingham
EASTON	Easton	Bloomsbury	Riegelsville	Frenchtown
EMMITSBURG	Blue Ridge Summit	Emmitsburg		
FAIRFIELD	Flat Ridge	Arendtsville	Iron Springs	Fairfield
GETTYSBURG	Biglerville	Hampton	Gettysburg	McSherrystown
HAGERSTOWN	Hagerstown	Smithsburg		
LAMBERTVILLE	Stockton	Hopewell	Lambertville	Pennington
MERCERSBURG	McConnellsburg	St. Thomas	Mercersburg	Williamson
PARKTON	New Freedom	Norrisville		
PORT JERVIS	Port Jervis North		Port Jervis South	
QUAKERTOWN	Milford Square	Quakertown	Perkiomenville	Telford
TANEYTOWN	Taneytown	Littlestown		
WALLPACK	Lake Mashenozha	Culvers Gap	Flatbrookville	
WESTMINSTER	Manchester	Lincolnboro		
WILLIAMSPORT, MD.	Clear Spring	Mason-Dixon		

30' quadrangles: scale 1:125,000 (1 inch = 2 miles) composed of the following:

<i>15' Quadrangles:</i>	<i>NW quarter</i>	<i>NE quarter</i>	<i>SW quarter</i>	<i>SE quarter</i>
BETHLEHEM	Wind Gap	Delaware Water Gap	Allentown	Easton
CAMDEN, N. J.	Chester	Philadelphia	Salem	Glassboro
GETTYSBURG	Fairfield	Gettysburg	Emmitsburg	Taneytown
HAGERSTOWN	Mercersburg	Chambersburg	Williamsport	Hagerstown
HONESDALE	Starrucca	Long Eddy	Honesdale	Damascus
LEWISTOWN	Bellefonte	Centre Hall	Allenville	Lewistown
NORRISTOWN	Quakertown	Doylestown	Norristown	Germantown
POCONO	Ariel	Hawley	Pocono	Bushkill
PUNXSUTAWNEY	Punxsutawney	Curwensville	Barnesboro	Patton
SCRANTON	Pittston	Scranton	Wilkes-Barre	Stoddartsville
TRENTON, N. J.	Lambertville	Princeton	Burlington	Bordentown
WILMINGTON	Coatesville	West Chester	Elkton	Wilmington

April 1, 1949

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY

Supplement to List of Publications of January 1947

NEW PUBLICATIONS:

- A 55. SMICKSBURG QUADRANGLE, by Marchant N. Shaffner, 1946, 300 pp., 11 pls., 103 figs., including 1 topographic, 1 geologic, and 1 mineral resources map. \$2.00
- G 21. SUBSURFACE TRENTON AND SUB-TRENTON ROCKS IN OHIO, NEW YORK, PENN., AND WEST VIRGINIA, by Charles R. Fettke, 1948, 35 pp., 7 figs., 20 cents.
- G 22. TRENTON AND SUB-TRENTON OF OUTCROP AREAS IN NEW YORK, PENNSYLVANIA, AND MARYLAND, by Frank M. Swartz, 1948, 102 pp., 26 figs. 35 cents.
- M 28. OIL AND GAS DEVELOPMENTS IN THE NORTH STRABANE AREA, WASHINGTON COUNTY, PENNSYLVANIA, by Charles R. Fettke, Robert C. Stephenson, and E. M. Tignor, 1946, 62 pp., 2 pls., 10 figs. \$1.00
- FARM LINE MAP OF WARREN QUADRANGLE, SHOWING UNDRILLED AREAS, by S. H. Cathcart, and W. H. Seifert, 1947. 30 cents.

OTHER PUBLICATIONS:

- G 17. GUIDEBOOK TO THE GEOLOGY ABOUT PITTSBURGH, by Henry Leighton, 1939. 35 pp., 13 figs., second printing, 1947. 25 cents.
- M 22. OIL GEOLOGY OF THE TITUSVILLE QUADRANGLE, PENNSYLVANIA, by Parke A. Dickey, 1941. 87 pp., 6 pls., 13 figs., 1 columnar, 5 cross sections, second printing, 1947. \$2.00
- PENNSYLVANIA'S MINERAL HERITAGE, Bureau of Statistics, Topographic and Geologic Survey, Department of Internal Affairs and The School of Mineral Industries, Pennsylvania State College, 1944. 50 cents.

THE ABOVE PUBLICATIONS ARE AVAILABLE FOR DISTRIBUTION BY THE DIVISION OF DOCUMENTS, DEPARTMENT OF PROPERTY AND SUPPLIES, 10th AND MARKET STREETS, HARRISBURG, PENNA., AT THE INDICATED PRICES.

PUBLICATIONS OUT OF PRINT

Stocks of these reports have been exhausted since January 1947:

G 4, G 9, G 10, G 11, G 12, G 15, M 11.
Progress Reports 102B, 110, 117, 123, 128, and 129, and
Map of UNDRILLED AREAS OF SHEFFIELD QUADRANGLE, by L. S. Matteson, 1946.

April 1, 1949

TOPOGRAPHIC MAPS

The following is a list of all the 7½-minute quadrangles issued by the United States Geological Survey and the Army Map Service:

(*) - maps issued by the AMS

(#) - maps issued by the USGS

Scales: 1:31,680 or 1:25,000

Scales: 1:31,680 or 1:24,000

15' Quadrangles	7½' Quadrangles			
	NE Quarter	SE Quarter	SW Quarter	NW Quarter
Accident	ACCIDENT#			
Bitumen	TAMARACK#	RENOVO W.#	KEATING#	HAMMERSLEY FK#
Bloomsburg	STILLWATER#	MIFFLINVILLE#	BLOOMSBURG#	BENTON#*
Bordentown			COLUMBUS*	TRENTON EAST*
Boyertown	E.GREENVILLE*	SASSAMANSVILLE*	BOYERTOWN*	MANATAWNEY*
Burlington	TRENTON WEST*	BRISTOL*	BEVERLY*	LANGHORNE*
Bushkill	TWELVE MILE PD#*	BUSHKILL#	E.STROUDSBURG#	SKYTOP#*
Catawissa	SHUMAN#	AMBLAND#	MOUNT CARMEL#	CATAWISSA#
Chambersburg	SCOTLAND*	WAYNESBORO*	GREENCASTLE*	CHAMBERSBURG*
Chester	LANSDOWNE#*	BRIDGEPORT#	MARCUS HOOK#	MEDIA#
Del. Water Gap	PORTLAND*	BELVIDERE*	BANGOR*	STROUDSBURG*
Doylestown	POINT PLEASANT*	BUCKINGHAM*	DOYLESTOWN*	BEDMINSTER*
Driftwood	FIRST FORK#	SINNEMAHERING#	DRIFTWOOD#	CAMERON#
Dundaff	CLIFFORD#			CARBONDALE#
Easton	BLOOMSBURG*	FRENCHTOWN*	RIEGELSVILLE*	EASTON*
Emmitsburg, Md.	EMMITSBURG*			BLUE RIDGE SUMMIT*
Fairfield	ARENDTSTVILLE*	FAIRFIELD*	IRON SPRINGS*	FLAT RIDGE*
Gettysburg	HAMPTON*	MCSHERRYSTOWN*	GETTYSBURG*	BIGLERVILLE*
Grantsville, Md.	AVILTON #			GRANTSVILLE#
Hagerstown	SMITHSBURG*			HAGERSTOWN*
Harrisburg	ENDERS#*	HARRISBURG E.*#	HARRISBURG W.*#	HALIFAX#*
Harvey Lake				DUTCH MTN.#
Honesdale			WAYMART#	
Houtzdale	WALLACETON#*	HOUTZDALE#	RAMERY#	GLEN RICHEY#*
Hoytville	ANTRIM#		CEDAR RUN#	TIADAGHTON#
Hummelstown	INDIANTOWN GAP#*	PALMYRA#*	HUMMELSTOWN#*	MANADA GAP#*
Hynes	SLATE RUN#	GLEN UNION#	RENOVO E.#	
Lambertville	HOPEWELL*	PENNINGTON*	LAMBERTVILLE*	STOCKTON*
Lykens	VALLEY VIEW#*	TOWER CITY#*	LYKENS#*	KLINGERSTOWN#*
Mercersburg	ST. THOMAS*	WILLIAMSON*	MERCERSBURG*	MCCONNELLSBURG*
Meshoppen	AUBURN CNTR.#	MESHOPPEN#	JENNINGSVILLE#	LACEYVILLE#
Millersburg	PILLOW#*	ELIZABETHVILLE#*	MILLERSBURG #*	DALMATIA#*
Parkton, Md.	NORRISVILLE*			NEW FREEDOM*
Pine Grove	MINERSVILLE#	SWATARA HILL#*	PINE GROVE#*	TREMONT#
Pittston	CENTERMORELAND#			
Port Jervis			PORT JERVIS S.*	PORT JERVIS N.*
Portsville	ORWIGSBURG#	AUBURN#*	FRIEDENSBURG#*	POTTSVILLE#*
Quakertown	QUAKERTOWN*	TELFORD*	PERKIOMENVILLE*	MILFORD SQUARE*
Scranton	OLYPHANT#	MOSCOW#	AVOCA #	
Shickshinny	NANTICOKE#*	SYBERTSVILLE#	BERWICK#*	SHICKSHINNY#
Taneytown, Md.	LITTLESTOWN*			TANEYTOWN*
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